



National Park Service  
U.S. Department of the Interior

## Office of Public Health

1201 Eye St, NW  
10<sup>th</sup> Floor  
Washington, DC  
20005



### Public Health Notification

**CAPT Sara Newman**  
Director  
202-513-7225

**CAPT David Wong**  
Chief  
Epidemiology  
Branch  
202-538-9969

**Sonya Coakley**  
Chief  
Operations Branch  
202-513-7215

**CDR Adam Kramer**  
Chief  
Field Services Branch  
202-513-7056

**Diana Allen**  
Chief  
Health Promotion  
Branch  
202-360-6251

**CDR Kurt Kesteloot**  
Supervisor Team  
Lead- Engineer  
402-661-1718

**LCDR Danielle Buttke**  
One Health  
Coordinator  
970-267-2118

**Bureau:** National Park Service

**Issue:** Zika Outbreak in the Americas and Pacific Islands—Implications for Park Managers

**Parks Currently at Risk for Zika Transmission:** Parks in Puerto Rico, U.S. Virgin Islands, and American Samoa

**Parks at Potential Risk:** Parks where mosquito species that can carry Zika virus are found, particularly in warm climates that can support year-round mosquito populations (e.g. parks in Florida, the Pacific Islands, and the U.S.–Mexico border)

**Other Parks:** For information only

**Date:** February 24, 2016

*This notification updates the initial NPS Zika advisory (issued January 14, 2016) and provides specific guidance tailored for park managers.*

#### Background

The Zika virus outbreak continues to evolve rapidly. On February 1, 2016, the World Health Organization declared the Zika outbreak a Public Health Emergency of International Concern because of severe complications suspected to be linked to Zika, including microcephaly (smaller than expected head size) in infants born to infected pregnant women, and Guillain-Barré Syndrome (GBS), a paralyzing, potentially fatal condition. Find more detailed information about Zika symptoms, transmission, complications and prevention at: [Zika Information and Prevention Measures](#).

To date, transmission of the Zika virus by mosquitoes has not been reported in the continental United States. However, the two mosquito species known to carry Zika virus (*Aedes aegypti* and *Ae. albopictus*) are found in 30 states (see [map](#)) and in 6 of 7 NPS Regions (excluding Alaska). [Travelers](#) infected with Zika abroad (i.e. imported cases) could infect local mosquitoes, potentially resulting in transmission to others.

The NPS Office of Public Health (OPH) continues to work closely with Natural Resources Stewardship and Science, the DOI Office of Emergency Management, the Centers for Disease Control and Prevention (CDC), and state/local health departments to monitor this outbreak and develop guidance for parks.

As warm weather approaches, mosquitoes will become more abundant, increasing Zika risk. To reduce the risk of mosquito-borne diseases, we have been most successful when staff proactively implements prevention measures, as we are doing in Hawaii and American Samoa, where the OPH and park staff are collaborating to deal with the Dengue outbreaks.

This notification outlines specific steps managers can take now to prevent Zika transmission, should it present within or near park boundaries. These same steps can also prevent other mosquito-borne illnesses (i.e. Dengue and Chikungunya).

#### EXPERIENCE YOUR AMERICA

The National Park Service cares for special places saved by the American people so that all may experience our heritage.

## **Guidance for Reducing the Risk of Zika Transmission**

The following steps are not mandated, but are provided as best practices for park managers and staff to consider implementing.

### **1. Keep up-to-date on the Zika outbreak**

- For additional information:
  - [U.S. Centers for Disease Control and Prevention \(CDC\)](#)
  - [Pan American Health Organization \(PAHO\)](#)

### **2. Educate and communicate on Zika**

- Share available educational resources with employees, visitors and partners
  - [CDC Zika fact sheets and posters](#)
  - [PAHO Zika posters](#)
- The Office of Public Health will work with parks and regions, as requested, to assist in drafting additional communication tools/templates to inform the public, employees and others about efforts to address prevention and control measures

### **3. Support employee and visitor mosquito bite prevention measures**

- Purchase and provide CDC-recommended repellents to staff, if feasible
  - Park IPM Coordinators must obtain approval through PUPS (Pesticide Use Proposal System) for the purchase of CDC-approved repellents if purchased with government funds
- Educate staff from concessioners, association bookstores and other venues about the importance of supplying [CDC-recommended repellents](#)
- Encourage inclusion of mosquito prevention measures in job hazard analyses
- Prioritize maintenance work orders (e.g. installing/fixing screens) that can reduce risk for mosquito bites
- If cases are identified at your park, consult with the Office of Public Health, IPM <http://www1.nrintra.nps.gov/brmd/ipm/contact.cfm>, and/or Office of Risk Management

### **4. Reduce manmade mosquito breeding habitats (i.e. standing water)**

- Conduct a systematic survey of human-occupied areas of the park
  - For parks with habitats that support large mosquito populations, consider having an entomologist lead the survey and train park staff
- Identify, document locations of, and eliminate (in accordance with NPS policies) manmade standing water
  - While conducting survey, also document locations where mosquito [larvae](#) are found
  - Larvae are also called “wigglers” because of their characteristic motion in water
- Develop a system/checklist for periodically reviewing and mitigating areas at risk for standing water
- Continue to educate and train staff about the importance of eliminating standing water and how to identify mosquito larvae
- Besides actions listed above, parks might consider working with universities, local mosquito control agencies, or other partners to establish mosquito surveillance in parks to better understand what species are present near human-occupied areas and to help guide management decisions

### **5. Treat manmade standing water that cannot be eliminated with IPM-approved larvicides**

- Areas of standing water that cannot easily be eliminated might include storm water retention ponds, catchment tanks, oil-water separators, and other heavy maintenance equipment. If feasible, these areas should be covered, modified, and/or treated with long-lasting larvicides, which are more effective and less toxic than adult mosquito sprays/fogs
- *Bacillus thuringiensis israelensis* (Bti), a commonly-used larvicide, is a naturally-occurring soil bacterium that can kill mosquito [larvae](#)
  - Bti is very specific for mosquitoes and black flies and has minimal impacts on non-target species, humans, or the environment
  - Cannot be used for drinking water sources

- All larvicides, including Bti, must first be approved for use by NPS IPM
  - Contact IPM to discuss other larvicide options
- Besides larvicides, deploying lethal ovitraps (mosquito egg traps) in human-occupied areas is another mosquito control measure

For Additional Guidance and Information Please Visit: [Zika Guidance on InsideNPS/Public Health](#)